BILL & MELINDA GATES foundation

NEGLECTED INFECTIOUS DISEASES

STRATEGY OVERVIEW

OUR MISSION

Guided by the belief that every life has equal value, the Bill & Melinda Gates Foundation works to help all people lead healthy, productive lives. Our Global Health Program is dedicated to this mission by helping to ensure that life-saving advances reach those who need them most.

We focus on problems that have a major impact on the poor in the developing world but get too little attention and funding. Where proven tools exist, we support sustainable ways to improve their delivery. Where they don't, we invest in research and development of new interventions, such as vaccines, drugs, and diagnostics.

Our financial resources, while significant, represent a very small fraction of the overall funding needed to improve global health on a large scale. We therefore advocate for policies and financial resources to promote greater access to health solutions. Strong partnerships are also essential to our success in making a difference and saving lives.

THE OPPORTUNITY

Neglected infectious diseases refer to a large and diverse group of global diseases that disproportionately affect the health and livelihood of the poor in the developing world and largely lack attention and funding for research and development. These diseases all have distinct manifestations, but they frequently impact the same people simultaneously, impairing physical and cognitive development, causing difficult pregnancies, and limiting adult productivity in the workforce. As a result, they cause billions of dollars in lost wages, and trap people and communities in a cycle of poverty.

In recent years, neglected disease control programs in endemic countries have made remarkable headway towards the control, elimination, and even eradication of neglected diseases. For example, Guinea worm is approaching eradication—in 2011, there were just 1,060 reported cases remaining, an historic low.[1] Since 2000, 2.7 billion treatments for lymphatic filariasis have been delivered, which has led to the elimination of its transmission and infection in several countries.[2] Onchocerciasis (river blindness) has now been successfully eliminated in Colombia, and in some parts of Africa.[3]

However, even with these successes and increased attention, more than 1 billion people suffer from one or more neglected diseases.[4] People living in remote areas with limited access to effective health care and basic public health measures are most vulnerable. The consequences of neglected infectious diseases include malnutrition, anemia, serious or permanent disability (including blindness), illness, and death. Some neglected diseases are controllable and possibly eradicable with the continued use of safe and effective drugs or other tools, but these are often not delivered or are delivered too late to those in need. For many of these diseases, effective tools such as vaccines, diagnostics, drugs, vector control, and other measures to control the spread of infection are lacking or extremely inadequate.

OUR STRATEGY

Our aim is to help reduce the burden of targeted neglected diseases on the world's poorest people through effective control, elimination, or eradication.*

We considered a large number of different diseases categorized as "neglected". After careful deliberation, we decided to focus our efforts in addressing 17 of these. Many of these account for a significant share of poverty, illness,

*CONTROL refers to the reduction in incidence or prevalence of a disease or condition to a defined level. ELIMINATION refers to the reduction of the incidence of a disease to zero within a country or defined region due to deliberate efforts. Emphasis shifts from control measures to surveillance to detect possible reintroduction. ERADICATION refers to the reduction of the worldwide incidence of a disease to zero due to deliberate efforts, making further control measures unnecessary.

and death in the developing world. Others, like human papillomavirus, may garner attention in the developed world, but have been historically neglected or underfunded in developing countries. Ultimately, we chose this set of diseases because we think this is where we can catalyze changes having the greatest impact and where we can best leverage our skills, the work of our partners, and existing systems.

Most of our funding is going towards a subset of strategic program initiatives (see pages 2 and 3 for our current portfolio of strategic program initiatives). We feel that these initiatives hold the most potential for either eradicating specific diseases or bringing them under control. We plan to make additional investments to discover, develop, deliver, and advocate for tools and strategies to make that a reality. To achieve impact more efficiently, we are also investing in the development of coordinated and integrated platforms for mass drug administration, surveillance, and vector control that could address multiple diseases simultaneously.

For a subset of three diseases, many effective tools and treatments are available and there are several outstanding organizations in place that are set to lead efforts to control, eliminate, or eradicate them. We are in the process of making our last investments in these areas so that these organizations can lead these efforts for the long term.

Lastly, there is a subset of six neglected diseases where we believe there may be opportunities to significantly reduce the disease burden but where there are knowledge gaps. In addition to investments we have already made in some of these diseases, we are investing in a learning agenda to improve our understanding of the burden and mechanisms of these diseases and exploring what tools or interventions may be needed for their control that are aligned with our strategic capabilities.

OUR CURRENT PORTFOLIO OF STRATEGIC PROGRAM INITIATIVES

Disease	Description	Global Burden	Current Status	Target	Our Strategic Approach
Guinea worm	Parasitic disease contracted when a person drinks stagnant water contaminated with the larvae of the Guinea worm, which can develop to 2-3 feet long and painfully erupt through human skin	A targeted eradication initiative has decreased affected countries from 20 to 4; only 1,009 cases were reported in 2011	Eradication is possible through public health interventions, early identification of cases, preventing contamination of water supplies by infected patients, and provision of clean water or water filtration.	Eradication	• Work with The Carter Center and the World Health Organization (WHO) to sustain program effectiveness, political will, and resources until eradication certification is achieved
Japanese encephalitis (JE)	Viral disease that is transmitted by mosquitoes and causes inflammation of the brain	Estimated 68000 cases annually, with 70 percent of infected people dying or with long-term disability	A single-dose, low-cost vaccine is now available; uptake by developing countries in Asia is increasing. However, there is a need to address cost, and financing barriers to drive uptake of vaccine in GAVI-eligible countries.	High-level control	• Complete WHO prequalification of JE vaccine • Support the GAVI Alliance in the delivery of JE vaccines in endemic areas
Lymphatic filariasis	Parasitic disease caused by filarial worms that are spread by mosquitoes; causes damage to the lymphatic system, kidney, arms, legs, or, especially in men, the genitals	An estimated 1.3 billion people at risk and more than 120 million people infected	Mass preventive-drug administration is effective, but many areas of transmission are difficult to reach, and programs need to be sustained for the lifetime of the adult worm (5–7 years). Bed nets can be used for prevention in some settings. Areas co-endemic for Loa loa cannot be treated with current drugs.	Eradication	• Help eliminate the disease in difficult areas by deploying effective vector control tools • Develop a safe macrofilaricide • Test currently available tools, such as alternate dosages of existing drugs and vector control approaches, to optimize their effectiveness

OUR CURRENT PORTFOLIO OF STRATEGIC PROGRAM INITIATIVES

Disease	Description	Global Burden	Current Status	Target	Our Strategic Approach
Onchocerciasis	A parasitic disease caused by a worm that is transmitted to humans through the bites of black flies that breed in fast-flowing rivers; it causes severe itching and visual impairment, including permanent blindness, and can shorten life expectancy by up to 15 years	An estimated 18 million people infected	Mass preventive-drug administration is effective. Many affected people are difficult to reach or Loa loa areas cannot be safely treated with current drugs. Programs need to be sustained for the lifetime of the adult worm (12–17 years), which is a significant challenge.	Eradication	• Develop a safe macrofilaricide • Test currently available tools, such as alternate dosages of existing drugs and vector control approaches, to optimize their effectiveness
Human papillomavirus (HPV)	Most common sexually transmitted virus; certain types are the cause of cervical cancer	Causes more than half million cases of cervical cancer and 274,000 deaths annually, overwhelmingly in developing countries	Vaccines are widely available in wealthy nations but largely unused in developing countries, where the vast majority of women are never screened for cervical cancer.	High-level control	• Support uptake of HPV vaccines through GAVI • Catalyze screening programs in low-resource environments
Visceral leishmaniasis (VL)	Parasitic disease transmitted by sand flies that affects the reticuloendothelial system, including the spleen, liver, and bone marrow, causing what is called parasitic AIDS; 100 percent fatal if untreated	An estimated 12 million people infected, with approximately 1 million cases occurring yearly	Widespread treatments are long in duration, difficult to administer, expensive, have significant side effects or are losing efficacy against this increasingly resistant disease. New regimens offer hope of shorter duration with good efficacy.	High-level control	• Resolve key questions about the epidemiology of VL transmission. • Increase access to current recommended drug regimens and vector control tools
Human African trypanosomiasis (HAT)	A parasitic disease transmitted by the tsetse fly, causing progressive systemic disease followed by central nervous system damage and death; 100 percent fatal if untreated	An estimated 70 million people at risk; 8,000 cases estimated	New tools have been developed to enable sustained high-level control or eradication of T.b. gambiense sub-species. Treatments are toxic, difficult, and complex to administer. Diagnostics are difficult to use; vector control can be effective if fully implemented.	Eradication	• Develop a new field friendly screening diagnostic • Determine how other new tools would fit into an eradication program
Hookworm disease	Parasitic disease caused when hookworms produce iron-deficiency anemia by sucking blood from the host's intestinal wall; it causes intellectual, cognitive, and growth retardation in infected children; and prematurity and low birthweight in newborns born to infected mothers	An estimated 3.2 billion people at risk; 576 million cases annually	Drug treatment is available, but is challenging to deliver as reinfection occurs quickly. Prevention involves clean water, sanitation, and hygiene measures. A vaccine is in early stage of development.	High-level control	• Advance single vaccine candidate through Phase II trial
Dengue	Viral infection spread by mosquitoes that causes high fever and severe muscle pain, and can lead to fatal hemorrhagic fever	An estimated 2.5 billion at risk; 50-100 million cases annually	No antiviral treatment is available. Vector control deployed in response to an outbreak is costly and often too late to have a significant impact. Effective prevention, with preemptive vector control or a vaccine can transform this field. New vector control options offer new hope.	High-level control	• Develop new, preventive vector control tools • Ensure access to dengue vaccine and new preventive vector control

INTERVENTION AREAS

Discover, develop, deliver, and advocate for tools and strategies to address our strategic program initiatives

National control programs in the developing world have made remarkable headway in reducing many neglected diseases. These programs have administered drugs to millions of people as well as delivered targeted vector control interventions. However, some neglected diseases lack the necessary tools to reach the goal of control or elimination, and therefore require new tools and improved strategies. Our approach is to support a pipeline of new drugs, vaccines, diagnostics, vector control tools, and program approaches best suited to each disease. Our strategic approach for each disease is highlighted below.

Guinea worm

Thanks to the dedicated efforts and leadership of **The Carter Center**, country governments, the **World Health Organization (WHO)**, and donors, Guinea worm is on the cusp of being the second disease in human history to be eradicated. The Carter Center has provided millions of people with water filters to enable them to drink water that is safe from Guinea worm. In 1986, there were an estimated 3.5 million cases across 20 nations in Africa and Asia. Since then, worldwide cases have been reduced by 99.7 percent.[5]

To help eliminate the remaining cases and ensure eventual eradication, we are supporting The Carter Center to sustain eradication efforts through to certification, identify and address any program weaknesses, and advocate for sustained commitment of political will and resources until eradication is achieved.

Japanese encephalitis virus

Eradication of Japanese encephalitis (JE) is not feasible because the JE virus is deeply embedded in the ecosystem (pigs and birds are the primary reservoirs). However, vaccination is a highly effective strategy to reduce the disease burden. This has been demonstrated in wealthier Asian countries where mass JE vaccination has been in place for years.

The use of a low-cost, effective vaccine in endemic areas is the best way to achieve high-level control of JE. Fortunately, there is a new, low-cost vaccine available. We are now investing in efforts to ensure that the vaccine can be World Health Organization prequalified and that GAVI is able to effectively deliver the vaccine to all those who need it.

Lymphatic filariasis and Onchocerciasis

The spread of lymphatic filariasis has been greatly reduced by the efforts of the **Global Alliance to Eliminate Lymphatic Filariasis**, which aims to eliminate the disease by 2020 by protecting the entire at-risk population. Their strategy involves primary prevention of new cases through the annual delivery of two donated drugs (ivermectin from Merck or diethylcarbamazine from Eisai and albendazole from GlaxoSmithKline) to all individuals at risk.

Much progress has also been made in fighting onchocerciasis, or river blindness, through the control of the black fly and treatment with an annual dose of ivermectin. The **African Programme for Onchocerciasis Control (APOC)** at WHO and the Carter Center's **Onchocerciasis Elimination Program of the Americas (OEPA)** have distributed ivermectin to millions of people. Since OEPA began in 2003, six endemic countries in the Americas have maintained at least 85 percent treatment coverage, which must be sustained to halt transmission. Colombia and Ecuador (pending confirmation) have become the first countries in the world to halt onchocerciasis. Mexico and Guatemala are close to making similar announcements.[3]

Though the drugs used to treat both diseases can effectively eliminate the worm's larval stages, the adult worms are unaffected and live for many years, within months producing new larva that can transmit disease. In the absence of drugs that can eliminate the adult worms, efforts to control transmission require annual or twice annual drug treatment. Another challenge is the inability to use the existing drugs to treat either disease in areas co-endemic for Loa loa (eye worm). The risk of adverse events associated with existing drugs in Loa loa infected individuals outweighs the benefit of community-level treatment for lymphatic filariasis or onchocerciasis.

Our strategic approach is therefore the same for both diseases—focus on eliminating the disease where possible while developing new tools and approaches to enable eradication. We are investing in strategies to eliminate the diseases in difficult areas by deploying effective vector control tools. We are also investing in the development of a macrofilaricide that would target the adult worms for both onchocerciasis and lymphatic filariasis and that could be safely used in Loa loa areas. Lastly, we are also investing in testing different delivery approaches of currently available tools, such as alternate dosages of existing drugs and vector control approaches, to optimize their effectiveness.

Human papillomavirus

Cervical cancer, caused by persistent HPV infection, is the most common women's cancer in many developing countries. However, fewer than 5 percent of women have access to cervical cancer screening even once in a lifetime. Affordable screening methods are available, and if detected at an early stage, curative treatment is relatively inexpensive using liquid nitrogen. Screening and treatment just once in a lifetime would reduce the incidence of cervical cancer by 25–36 percent[6,7] and would produce a net savings to health services.[6] There are currently two vaccines available that are highly effective against the major cancer-causing strains of HPV. These vaccines have been shown to be effective when administered to school-age girls in developing countries.

Our strategy is therefore focused on achieving sufficient coverage of HPV vaccines and catalyzing screening programs in low-resource environments. In the area of screening, we are investing in evaluating the effectiveness of different delivery models. In the area of vaccination, we are funding efforts to assure the availability of a sufficiently low-cost vaccine to enable uptake among GAVI and lower-income, non-GAVI-eligible countries.

Visceral leishmaniasis

Though the WHO has targeted visceral leishmaniasis (VL) for elimination, current tools are inadequate to achieve this goal. Though new regimens offer hope of short duration with good efficacy, treatments that are currently widely used for VL are long in duration, difficult to administer, expensive, have significant side effects, and are losing efficacy against this increasingly resistant disease. Vector control, though effective when delivered, relies on onerous and expensive indoor residual spray with DDT. There are also a number of knowledge gaps that prevent high-level control of VL, which include a poor understanding of the role of VL-infected, asymptomatic individuals in disease transmission; the biology underlying latency; and the parasite's ability to persist after treatment and cure of clinical disease.

We are investing in efforts to close these knowledge gaps to determine the set of tools and approaches that will be required to achieve high-level control and the feasibility of elimination. In parallel, we are also working to increase access to recommended drug regimens and vector control tools.

Human African trypanosomiasis

Reported cases of human African trypanosomiasis (HAT), also known as African sleeping sickness, have dropped steadily in recent years, reaching fewer than 8,000 in 2010.[8] However, current tools remain inadequate to ultimately eradicate this disease. Current treatments can be toxic, are difficult to deliver, lengthy to administer, and costly. Additionally, the long, relatively asymptomatic first stage of HAT requires an exhaustive, labor-intensive, and costly active screening of the population at risk to identify patients at an early stage and reduce transmission. As a result, as many as 50 percent of cases go undetected and many infected individuals may die before they can ever be diagnosed and treated.

We are making investments to improve the screening and treatment of HAT. We are supporting the **Foundation for Innovative New Diagnostics** to research and develop novel rapid-diagnostic tests for HAT. We are also supporting the **Drugs for Neglected Diseases initiative** to undertake clinical development of fexinidazole, an antiprotozoal compound that could be taken orally and could allow for a much simpler treatment schedule than what is used today. Improved vector control, with devices that target the tsetse fly vector, have shown promise and are entering Phase III trials. We are also investing in efforts to determine how other new tools would fit into the eradication of HAT.

Hookworm disease

The most effective prevention method for controlling chronic hookworm infection includes both proper sanitation management efforts and educational campaigns on the use of latrines, but this is expensive and unrealistic for the short term. Two primary drugs are available to treat active hookworm infection—albendazole and mebendazole—but reinfection remains a problem and resistance an emerging threat to programs. The WHO recommends deworming at-risk school-age children. However, children usually become reinfected within a few months after the process.

Our primary goal is the development of a hookworm vaccine, which could have tremendous impact when used in addition to school-based deworming treatments. We are currently supporting the **Human Hookworm Vaccine Initiative (HHVI)** to develop a hookworm vaccine. HHVI is focused on developing and testing a vaccine to prevent moderate to severe hookworm infection in children younger than 10years living in endemic areas. The goal is to reduce the anemia, delayed physical growth, and impaired cognitive development caused by the hookworm infection.

Dengue

The incidence of dengue has increased 30-fold over the last 50 years with 50 million dengue infections now occurring worldwide each year.[9] Outbreaks of dengue fever occur

sporadically, although the virus circulates widely in the human population. Most dengue infections are mild or even asymptomatic; it is only when transmission is intense that symptoms appear and are recognized. National dengue control efforts often occur in response to outbreaks, but have limited impact.

Moving to a preventive, pre-emptive approach can reduce the burden of disease in dengue. New tools are urgently needed, specifically new vector control tools and effective vaccines. Several potential dengue vaccines are in development with at least one candidate nearing the completion of clinical trials. We are supporting work to effectively deploy a safe, effective, and affordable vaccine if and when available for people living in dengue-endemic countries and new methods to detect or predict dengue outbreaks early enough to implement preventive measures. **The Dengue Vaccine Initiative** is working with manufacturers who have vaccine candidates in development and is supporting countries in making plans for the best use of vaccine in disease prevention. We are supporting several organizations to develop novel vector-control interventions and tools to monitor the transmission of dengue to prevent cases before they occur.

Develop efficient and effective platforms that support the health impact goals for priority disease

To achieve the lowest cost per health impact possible our strategy seeks opportunities for coordination and integration across initiatives. As part of our strategy, we are investing in efforts to develop coordinated and integrated platforms for mass drug administration, surveillance, and vector control that could address multiple diseases simultaneously. Each initiative is described below.

Mass drug administration

For a subset of infectious diseases, mass drug administration (MDA) programs are used to treat whole populations irrespective of disease status based on the prevalence of the infection at the community level. This strategy both prevents and treats to eliminate transmission and the disease.

Seven neglected diseases (onchocerciasis, lymphatic filariasis, schistosomiasis, ascariasis, trichuriasis, hookworm, and trachoma) share a mass drug administration schedule, overlap geographically, and, in some cases, are responsive to the same drugs. We are investing in efforts to integrate elements of each disease's MDA programs to achieve impact for multiple diseases more efficiently, effectively, and sustainably than if each disease were dealt with independently. Investments include supporting efforts to coordinate monitoring and evaluation strategies, program planning, drug supply management, surveillance, and the process of eradication certification.

Surveillance

Surveillance includes the routine collection and use of incidence and prevalence data to inform public health interventions, monitoring and evaluation of disease control and elimination programs, and assessing disease prevalence in vector populations (also known as xenomonitoring). Surveillance data are critical to assessing disease burden, optimizing resource allocation, detecting outbreaks, and informing key decisions in disease control and elimination programs and thus maximizing effectiveness.

For many neglected diseases, there are numerous weaknesses in surveillance, including inaccurate detection tools, lack of guidelines to inform population sampling, poor information flow between those collecting the data and those implementing programs, and a shortage of trained workers to implement surveillance programs.

We are exploring the feasibility of crosscutting solutions to address these barriers, including shared approaches for sample collection, sample processing, data aggregation, and surveillance system design.

Integrated vector platform

Vector control is one of the most effective means of preventing transmission of vector-borne diseases. Nevertheless, vector control interventions are often costly and represent a substantial financial burden to countries and donors. Furthermore, it is difficult to achieve high coverage with most interventions, and the availability of adequate human resources to design, implement, manage, and sustain vector control programs is an ongoing challenge. New, more effective and efficient tools are urgently required.

As most tools used in vector control are broadly effective against a range of insect vectors, there is great potential for disease control programs to capitalize on this and achieve synergies and efficiencies using integrated vector control approaches. Globally, vaccines are routinely delivered to infants through the Expanded Program of Immunization, thereby increasing their coverage and impact. We believe that vector control tools could be similarly applied. Our vision is to support the development of an Expanded Program of Vector Control, which would exploit the cross-vector efficacy of existing and new tools and offer an operational framework through which a national program could optimize the implementation of vector

control, including the application of tools and monitoring their impact. We are exploring investments to define that framework and evaluate it in several different settings in endemic areas. We are also supporting the development of methods to evaluate the impact of vector control tools on multiple vector species that exist in the trial sites.

Support other actors to lead global elimination efforts

There are three diseases—rabies, trachoma, cysticercosis—for which the goal of our investments is to facilitate uptake and implementation by other actors. We remain passionate about addressing these diseases, but each disease now has highly effective tools and strong leaders in place that have a comparative advantage over the foundation in leading ongoing efforts to achieve elimination. An overview of our final investments for each of the three diseases is featured below.

Rabies

Eliminating canine rabies through mass dog vaccination programs is a cost-effective strategy to prevent human rabies in endemic countries. Currently, the main barrier is the lack of evidence on the feasibility, impact, and cost-effectiveness of this approach compared to the current approach of post-exposure prophylaxis following dog bites. We are currently investing in projects to demonstrate proof-of-concept in three pilot regions in Tanzania, South Africa, and the Philippines. Assuming these pilot projects demonstrate feasibility of the approach, any further investments would be targeted towards collecting the evidence for feasibility and cost-effectiveness of the strategy, ensuring dissemination of the resulting data, and encouraging adoption of the approach among a set of other endemic countries.

Trachoma

The elimination of trachoma is feasible through the implementation of the WHO-endorsed integrated strategy for trachoma control, which includes surgery for trichiasis, antibiotic therapy, facial cleanliness, and environmental improvement (known by the acronym of SAFE). By applying the SAFE strategy, Ghana, the Islamic Republic of Iran, Morocco, and Oman have eliminated trachoma as a public health problem.[10]

We have invested in optimizing the current MDA programs for the antibiotic therapy used in SAFE, improving diagnostic and surgical interventions, and developing new guidelines to monitor and confirm trachoma elimination.

In parallel, we have invested in strengthening key coordinating bodies that can sustain this work, including **Johns Hopkins University**, the **International Trachoma Initiative**, and others, in partnership with Pfizer and national programs.

Given the presence of the proven and effective SAFE strategy and the strong capacity and leadership to lead efforts to eliminate trachoma, our investments in trachoma are now transitioning to implementing partners.

Cysticercosis/Taeniasis

Cysticercosis and taeniasis are caused by the human tapeworm, Taenia solium, and occur worldwide, primarily in poor rural communities in developing countries where pigs are raised, pork is consumed, and poor sanitation allows pigs to access human feces.

We funded a demonstration project to eliminate cysticercosis/ taeniasis from the major disease-endemic area in northern Peru, with the aim of developing a model that could be used for disease eradication efforts in other parts of the world. **University Peruana Cayetano Heredia**, which led the project, demonstrated that the transmission of cysticercosis/ taeniasis could be interrupted through large-scale treatment of taeniasis in humans with niclosamide and simultaneous treatment of pigs with oxfendazole and TSOL18 vaccine. This work is currently being scaled up and demonstrated as a part of existing public health programs in surrounding areas in South America.

Now that proof of concept has been demonstrated, groups working in global development/animal husbandry programs are best poised to lead the effort toward eliminating cysticercosis/taeniasis. Our partner, **Imperial College London**, which is leading the **Integrated Control of Cysticercosis in sub-Saharan Africa**, is now exploring approaches in endemic areas in Africa.

Identify opportunities and conduct analysis on potential investments

Six diseases—ascaris, trichuris, hookworm, schistosomiasis, buruli ulcer, and Chagas disease—comprise our learning initiatives. These diseases could eventually become strategic program initiatives, but we feel that more research is needed to truly understand the diseases and potential transformational interventions (beyond current investments) that would achieve impact. For each of these diseases, we are making investments to assess potential opportunities and determine whether ongoing or future engagement is warranted for our strategy.

PROGRESS

Many of our partners have had preliminary success in substantially controlling and even eliminating diseases. Others have made progress in developing tools to fight the target diseases in o

- The Carter Center helped to eliminate Guinea worm in 16 of 20 countries, and is on the verge of eradicating the disease.5 As of December 2011, 1,009 cases had been reported from 462 villages; a 42 percent reduction as compared to the 1,741 cases reported in 2010.[1]
- The Global Programme to Eliminate Lymphatic Filariasis helped to deliver over 1.9 billion treatments to individuals living in 48 of the 83 endemic countries, saving millions of people from death or disability since the program was initiated.[2]
- The Carter Center also helped eliminate blindness resulting from onchocerciasis from nine of 13 areas in the Americas, and all 13 areas have reached 85 percent coverage with treatment.[3]
- During the last 10 years, the number of new cases of HAT reported to WHO decreased by 73 percent. For the first time in more than 50 years, the number of reported cases dropped below 10,000 in 2009, and 7,139 were reported in 2010.[8]
- By 2011, over 80 countries that previously lacked cervical cancer screening in the public sector will have pilot programs, national policies, or national programs for cervical cancer screening.[11]

CHALLENGES

The development of new tools for neglected diseases is challenging for the private sector given the low financial return on investment. Programs for mass drug administration rely on generous drug donations by companies. Asking the private sector to develop a drug that they would ultimately be expected to give away may be a disincentive to some companies. However, the private sector continues to increase their commitments to donation programs and engage in the research and development of new tools. We are hopeful that ongoing partnerships with Drugs for Neglected Disease Initiative, Infectious Disease Research Institute, pharmaceutical companies and others will lead to the development of effective public health tools.

LESSONS LEARNED

In the past, we lacked a common framework for decision making around which diseases we should invest in and what interventions to support, resulting in an array of grants for a range of diseases. We have learned that it is important to prioritize among diseases and use criteria to clarify the types of investments that we want to make to enhance the likelihood of success.

Our investments have largely been focused on the development of new tools and have had limited focus on the delivery of these products to those who need them most. We have broadened our focus beyond product development and are investing in ways to deliver new tools and identify and address challenges of taking innovations to scale. These include supporting efforts to address policy requirements, refine regulations, and develop models for delivery.

In the case of Guinea worm and onchocerciasis in the Americas, we have learned that the last mile of eradication is difficult and requires constant vigilance. We have learned that it is important to start in the hardest areas early, be ready to respond to the unexpected, and plan for the substantial resources and political commitment needed to complete the job.

THE WAY FORWARD

The global community is paying increased attention to neglected infectious diseases. There is progress on the path toward elimination and even eradication of select diseases through the delivery of proven interventions and dedicated partnerships. However, new tools and models are needed to meet elimination and eradication targets.

None of our goals can be achieved with our investments alone. For each disease that we are attempting to address, we are dependent on other donors or industry to co-fund or fully fund research and development and maximize the impact of drug donation programs, country governments and other delivery partners to implement programs that achieve impact, and advocates to mobilize commitment and funding. We look to all of these partners to leverage their expertise so that the burden of selected neglected diseases on the world's poorest people can be reduced.

TO LEARN MORE

About the Global Health Program:
www.gatesfoundation.org/global-health

About Neglected Infectious Diseases:
www.gatesfoundation.org/neglecteddiseases

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